

REMARKS

Claims 1, 24 and 25 have been amended. Claims 1-25 remain pending. A Petition for Extension of Time (three-months) is being filed concurrently herewith. Applicants reserve the right to pursue the original claims and other claims in this and other applications. Applicants respectfully request reconsideration of the above-referenced application in light of the amendments and following remarks.

Claims 1, 8, 9, 11-18, 24 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyano (U.S. Patent No. 6,363,167) ("Miyano") in view of Ito (U.S. Patent No. 6,108,033) ("Ito"). Reconsideration is respectfully requested.

The cited references, alone or in combination do not disclose or suggest the re-registering of data from the design data of a semiconductor wafer into a SEM image. The present invention performs updating of the template into one with the highest degree of matching. The present invention specifies the switching between different kinds of data, (i.e., design data and SEM image data) for an identical object, (i.e., between the same patterns).

Miyano, in contrast, relates to a plurality of templates used for pattern-matching created from CAD data using lithography simulation. Upon the creation of the templates, the templates are then registered. Miyano merely teaches the adoption of either CAD data or SEM image data as a template. Miyano does not teach re-registration of data from the design data of a semiconductor wafer into a SEM image. Ito is relied upon for disclosing a template registering method.

Ito discloses that one of a plurality of templates is sequentially updated such that an object having a different apparent shape, size or direction with respect to the original template can be tracked. Again, neither Miyano nor Ito disclose re-registering

of data from the design data of a semiconductor wafer into a SEM image. Further, Ito does not disclose switching between different kinds of data (i.e., design data and SEM image data) for the identical object (i.e., between the same patterns). In Ito, the updating is performed between images of the same kind (i.e., images captured with the same imaging means) between different objects (having different apparent shape, size, or orientation).

Moreover, Ito discloses a monitoring method and system using a television camera. Consequently, Ito's technical field is completely different from that of the present invention, and does not disclose or suggest application to a semiconductor inspection system as claimed.

Still further, there is no motivation to combine Miyano and Ito since the two references are in completely different fields. Ito relates to providing a highly reliable video image monitoring method and system between a TV camera and an object (Col. 3, ll. 26-30). Miyano relates to a measuring method using a scanning electron microscope. The problems associated with semiconductor manufacturing and/or inspection are unique to manufacturing semiconductor devices using design data. As a result, one skilled in the art would not combine or examine the teachings of a reference dedicated to a TV camera, i.e., Ito, with the disclosures of a semiconductor inspection system, i.e., Miyano.

Accordingly, the cited references do not teach or suggest a semiconductor inspection system comprising, *inter alia*, "a navigation system for storing design information such as design data ... wherein a portion of [an] image that corresponds to [a] template is re-registered as a new template in place of the bitmap based on the design information, the bitmap and the new template having an identical pattern part," as recited in claim 1, as amended.

The cited references do not disclose or suggest a semiconductor inspection method where a template is registered in advance comprising, *inter alia*, "creating a template comprising a bitmap based on semiconductor chip design information such as design data ... and re-registering an image portion corresponding to [a] detected position as a new template in place of [a] bitmap based on the design information, the bitmap and the new template having an identical pattern part," as recited in claim 24.

Similarly, the cited references do not teach or suggest a semiconductor inspection system comprising, *inter alia*, a "navigation system [which] sets the template comprising a bitmap based on semiconductor chip design such as design data ... and re-registers as a template a portion of [a] image that is detected by [a] matching process and which corresponds to [a] template whereby the template is matched with a pattern within a grayscale image, the bitmap and the new template having an identical pattern part," as recited in claim 25.

Claims 8, 9 and 11-18 depend from claim 1 and should be similarly allowable along with claim 1 for at least the reasons provided above. Accordingly, Applicants respectfully request that the rejection as to claims 1, 8, 9, 11-18, 24 and 25 be withdrawn.

Claims 2-7, 10, and 19-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyano and Ito in view of Lin (U.S. Patent No. 6,292,582) ("Lin"). The rejection is respectfully traversed.

Claims 2-7, 10, and 19-23 depend from claim 1 and should be similarly allowable along with claim 1 for at least the reasons provided above. Specifically, Miyano and Ito do not disclose or suggest the re-registering of data from the design data of a semiconductor wafer into a SEM image, or that switching occurs between different kinds of data (i.e., design data and SEM image data) for the identical object


(i.e., between the same patterns). Moreover, there is no motivation to combine Miyano and Ito since one skilled in the art would not combine the teachings of a TV camera system, i.e., Ito, with the teachings of a semiconductor inspection system, i.e., Miyano. Accordingly, Applicants respectfully request the rejection as to claims 2-7, 10, and 19-23 be withdrawn.

Applicants also note that on pages 12-13 of the Office Action, in response to the previous amendment of "CAD data" to "design data," the Examiner indicates that there is not a difference between the two. Despite the language in the previous response that "CAD data is different from design data," the amendment in question was not intended to distinguish the present invention from the references, but simply to replace the term "CAD" with the more general phrase "design data."

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

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